

# Summary of Observed Groundfish Bycatch by Groundfish Limited-Entry Vessels Targeting California Halibut

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## Introduction

This report summarizes the bycatch of groundfish species by limited-entry vessels on observed tows where California halibut was targeted with trawl gear. California halibut is a flatfish species which is targeted by trawl vessels off central and southern California. Although related to other flatfish species occurring on the continental shelf, California halibut is not managed as part of the Pacific Fishery Management Council's (PFMC) Groundfish Management Plan. Participation in the open-access fishery for California halibut does not require specific permits.

The West Coast Groundfish Observer Program (WCGOP) at the Northwest Fisheries Science Center began at-sea observation of vessels with limited-entry trawl permits in September, 2001. These vessels were selected for observer coverage using a stratified random sample design. Each selected vessel was observed over all trips within a 2-month period, which is the duration of most groundfish landing limits. Although the fishery for California halibut is open access, some vessels with limited-entry trawl permits participate in it. Consequently, the selection of vessels with limited entry trawl permits provides some coverage of trips where California halibut is targeted. It is not clear how these results apply to vessels targeting California halibut that do not have limited entry trawl permits.

## Methods

This summary draws from all tows by limited-entry trawl vessels that were observed between September, 2001 and August, 2004. From this universe, tows where California halibut was the target recorded in the vessel's logbook were selected. Ideally, these targets would be recorded by the vessel captain prior to fishing, however it is not known to what extent they are recorded after the results of the tow are known. Due to the limited number of selected observations, the data are summarized on an annual basis with no geographic stratification. Total and retained catch amounts are summed for California halibut and for the groundfish species or species groups presented in this report.

## Results

Because California halibut is, at most, an ancillary fishery for limited-entry trawlers in California, the number of observed tows meeting the selection criteria is relatively small. From September, 2001 through August, 2004, the number of tows meeting the criterion

ranged from 62 in 2002 to 168 in 2004, with an annual average of 132. Roughly 90% of the qualifying tows were associated with landings made in San Francisco area ports.

Tows meeting the qualifying criteria produced roughly 142,000 lb of landed California halibut (Table 1) across the entire period. In 2002 and 2004, a small number of these tows contained moderate amounts of rockfish. However, the bycatch of *Sebastes* species that have been declared overfished was very low. A total of 3 lb of bocaccio and 16 lb of canary rockfish were observed, with no catch of cowcod, widow, darkblotched, or yelloweye rockfish. Overall bycatch rates for lingcod were somewhat higher (averaging 28 lb per 1,000 lb of California halibut), with a total of 3,514 lb caught.

Given the similarities between California halibut and other flatfish, it is not surprising that the coincident catch of flatfish is relatively high among the selected tows. Overall, the catch of flatfish was roughly 50% of the retained California halibut for the qualifying tows. The coincident catch of flatfish was much lower in 2004 than in preceding years. Although discard of flatfish in these tows generally ranged from 30% to 40%, the rates are reasonably consistent with rates of discard for flatfish observed in depths of less than 75 fathoms throughout the area south of 40°10' N. Lat.. (for comparison, see the observer data summary at <http://www.nwfsc.noaa.gov/research/divisions/fram/observer/datareport2005/Tables-TrawlReportJan2005.pdf>) The vast majority of other groundfish caught in these tows were skates, most of which were discarded.

Limited-entry vessels accounted for 56-71% of California halibut poundage landed from 2001-2004, averaging 63% (Table 2). The amount of observed California halibut included in the study set represents 12-14% of the California halibut landed by limited-entry vessels during these years (~8% of landings by all vessels). For 2004, the observed poundage by vessels targeting California halibut represents more than 20% of the limited-entry total and more than 14% of all California halibut landings.

## Conclusions

Observational data for trawl tows targeting California halibut are only available at this time for vessels that were part of the groundfish limited-entry fleet. Although these vessels account for more than half of California halibut landings from 2001 to 2004, the sampling protocols under which vessels were selected for coverage were formulated based on landings of groundfish and not California halibut. Therefore, it is important to note that the results summarized in this report may not be representative of the fishing behavior of the entire limited-entry fleet or the open-access fleet while fishing for California halibut. Given those caveats, California halibut tows that were observed, contained only small amounts of *Sebastes* species that have been declared overfished.

Table 1.--Bycatch of groundfish in observed trawl tows targeting<sup>1</sup> California halibut by vessels with groundfish limited-entry permits, 2001-2004.

	2001	2002	2003	2004	Total
Number of observed tows	95	62	203	168	528
San Francisco Area	78	46	186	164	474
Monterey Area	1	2	12	4	19
Morro Bay Area	16	14	5		35
California halibut					
Total catch (lb)	27,920	12,518	49,512	73,472	163,422
Retained catch (lb)	19,756	9,339	41,982	71,068	142,146
% discarded	29%	25%	15%	3%	13%
avg. retained lb / tow	208	151	207	423	269
All groundfish					
Total catch (lb)	28,306	22,500	104,714	85,247	240,768
Retained catch (lb)	23,222	17,694	31,421	23,540	95,876
% discarded	18%	21%	70%	72%	60%
All <i>Sebastes</i> species					
Total catch (lb)	177	7,228	481	16,749	24,635
lb per 1,000 lb CA halibut	8.9	774.0	11.5	235.7	173.3
Retained catch (lb)	157	7,222	285	132	7,797
% discarded	11%	0%	41%	99%	68%
All flatfish species					
Total catch (lb)	25,118	13,196	51,480	36,870	126,664
lb per 1,000 lb CA halibut	1,271.4	1,413.0	1,226.2	518.8	891.1
Retained catch (lb)	22,748	10,161	30,133	22,196	85,238
% discarded	9%	23%	41%	40%	33%
Bocaccio					
Total catch (lb)	0	3	0	0	3
lb per 1,000 lb CA halibut	0.00	0.37	0.00	0.00	0.02
Canary rockfish					
Total catch (lb)	3	0	3	10	16
lb per 1,000 lb CA halibut	0.15	0.00	0.06	0.14	0.11
Total cowcod lb	0	0	0	0	0
Total widow rockfish lb	0	0	0	0	0
Total yelloweye rockfish lb	0	0	0	0	0
Total darkblotched rockfish lb	0	0	0	0	0
Lingcod					
Total catch (lb)	436	272	1,713	1,092	3,514
lb per 1,000 lb CA halibut	22.08	29.12	40.81	15.37	24.72
Retained catch (lb)	53	42	699	810	1,603
% discarded	88%	85%	59%	26%	54%

<sup>1</sup> For purposes of this summary, targeted California halibut tows were defined as those where California halibut was declared as the target of the tow.

Table 2.--Annual landings of California halibut, by fleet, 2001-2004, and comparison of limited-entry totals with the amounts observed on tows where California halibut was recorded in the vessel logbook as the target species.

	2001	2002	2003	2004	Total
Annual landed catch of CA halibut (mt) <sup>1</sup>					
Limited-entry vessels	109	117	112	139	477
Open-access vessels	64	90	46	77	276
percent limited entry	63%	56%	71%	64%	63%
Observed tows where CA halibut was reported as the target					
Observed CA halibut (mt)	9	4	19	32	64
percent of limited-entry total	8.2%	3.6%	17.0%	23.2%	13.5%
percent of all CA halibut	5.2%	2.0%	12.1%	15.0%	8.6%

<sup>1</sup> From fish ticket landings (PacFIN).